

REMARKS

This Application has been carefully reviewed in light of the Office Action mailed March 5, 2004. Claims 1-26 are pending in the Application. Applicants submit that the pending claims are patentably distinguishable over the cited references. Applicants, therefore, respectfully request reconsideration and favorable action in this case.

Section 102 Rejections

The Examiner rejects Claims 1, 3-5, 8, 9, 11-13, 15-17, 20, 21, and 23 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,417,958 issued to Du, et al. ("*Du*"). Applicants respectfully traverse these rejections and all assertions therein.

A prior art reference anticipates a claim "only if *each and every element* as set forth in the claim is found, either expressly or inherently described," in that reference. *Verdegaal Bros. v. Union Oil Co.*, 814 F.2d 628, 631 (Fed. Cir. 1987) (emphasis added); *see also* M.P.E.P. § 2131 (quoting *Verdegaal Bros.*, 814 F.2d at 631); *see also* M.P.E.P. § 706.02 ("[F]or anticipation under 35 U.S.C. § 102, the reference must teach *every aspect* of the claimed invention either explicitly or impliedly."). In addition, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claims" and "[t]he elements must be arranged as required by the claim." *Richardson v. Suzuki Motor Co.*, 9 USPQ 2d 1913, 1920 (Fed. Cir. 1989); *In re Bond*, 15 USPQ 2d 1566 (Fed. Cir. 1990); *see also* M.P.E.P. § 2131 (*emphasis added*). Applicants submit that *Du* fails to teach each and every element as claimed.

For example, Independent Claim 1 recites, "modulating a non-intensity characteristic of an optical carrier signal with a data signal to generate an optical information signal." For the teaching of this limitation, the Examiner offers the disclosure in *Du* of a Mach-Zehnder modulator (34) and a sentence from *Du* that merely states that multiple channels may be modulated by a single modulator. See Col. 7, Lines 61-63. However, the Examiner has failed to cite any disclosure in *Du* that the cited Mach-Zehnder modulator 34 modulates a non-intensity characteristic of an optical signal with a data signal. In fact, it is the Applicants understanding that a Mach-Zehnder modulator generates an *intensity modulated signal* that is modulated with a data signal, not a non-intensity-modulated signal. This fact is further illustrated by the use of a decorrelator 33 in *Du* to decorrelate the input WDM signals prior to

Raman amplification. Col. 7, Lines 17-21; Figure 4. Applicants submit that this type of decorrelation is used with intensity-modulated WDM signals and is unnecessary in non-intensity modulation as data modulation scheme. Accordingly, Applicants submit that *Du* does not disclose modulating a non-intensity characteristic of an optical carrier signal with a data signal and request reconsideration and allowance of Claim 1 and its dependent Claims 3-5, 8, 9, and 11-12.

Independent Claims 13 and 23 recite limitations that are similar, although not identical, to the limitation of Claim 1 discussed above. Therefore, these claims are allowable for reasons analogous to those discussed above in connection with Claim 1. Claims 15-17, 20, and 21 each depend from independent Claim 13 and are thus also patentable over the cited art.

Section 103 Rejections

The Examiner rejects Claims 2 and 14 under 35 U.S.C. § 103(a) as being unpatentable over *Du* as applied to the independent Claims 1 and 13, respectively. Applicants traverse these rejections and all findings and assertions therein. In particular, these Claims 2 and 14 depend from independent Claims 1 and 13 and are thus allowable as depending from an allowable independent claim. Thus, Applicants respectfully request that these rejections be withdrawn.

The Examiner also rejects Claims 6, 7, 10, 18, 19, 22, and 24-26 under 35 U.S.C. § 103(a) as being unpatentable over *Du* as applied to the independent Claims 1, 13, and 23, in view of U.S. Patent No. 6,566,326 to Bergano ("*Bergano*"). Applicants traverse these rejections and all findings and assertions therein.

Independent Claim 26 recites, "modulating one of a phase and frequency of each of a plurality of wavelength distinct carrier signals with a data signal to generate an optical information signal." Additionally, dependent Claims 6, 7, 18, 19, 24, and 25 recite similar limitations. For the teaching of this limitation, the Examiner offers the disclosure in *Bergano* that teaches transmitting orthogonally polarized channels to limit four-wave mixing. *Bergano*, Col. 5, Lines 39-44. Applicants fail to recognize how polarized signals relate to phase and/or frequency modulation. Furthermore, the Examiner fails to cite any passage in *Bergano* that teaches that generating orthogonally polarized channels result in phase and/or frequency modulation. In addition, Applicants submit that the phase modulator 406

disclosed in *Bergano* merely provides periodic chirp addition synchronous to each symbol, and is *not used to modulate signals with a data signal*, because phase modulator 406 is driven by a clock 405 via a variable delay 408. Col. 5, Lines 46-50. Accordingly, Applicants respectfully request reconsideration and allowance of independent Claim 26 and dependent Claims 6, 7, 18, 19, 24, and 25.

In addition, Claims 6, 7, 10, 18, 19, 22, and 24-25 depend from independent Claims 1, 13, and 23 and are thus allowable as depending from an allowable independent claim. Thus, Applicants respectfully request that these rejections be withdrawn.

CONCLUSION

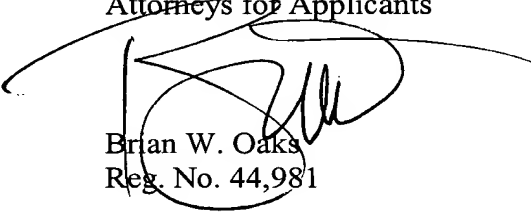
Applicants have made an earnest attempt to place this case in condition for allowance. For at least the foregoing reasons, Applicants respectfully request full allowance of all the pending claims.

If the present application is not allowed and/or if one or more of the rejections is maintained, Applicants hereby request a telephone conference with the Examiner and further requests that the Examiner contact the undersigned attorney to schedule the telephone conference.

Applicants hereby take an Extension of Time for responding to the Examiner's Office Action dated March 5, 2004 for one month from June 5, 2004 to July 5, 2004. A check in the amount of \$110.00 is enclosed to cover the cost of a one-month extension of time. Although Applicants believe no other fees are due, the Commissioner is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 02-0384 of BAKER BOTTS L.L.P.

Respectfully submitted,

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